

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
7 October 2004 (07.10.2004)

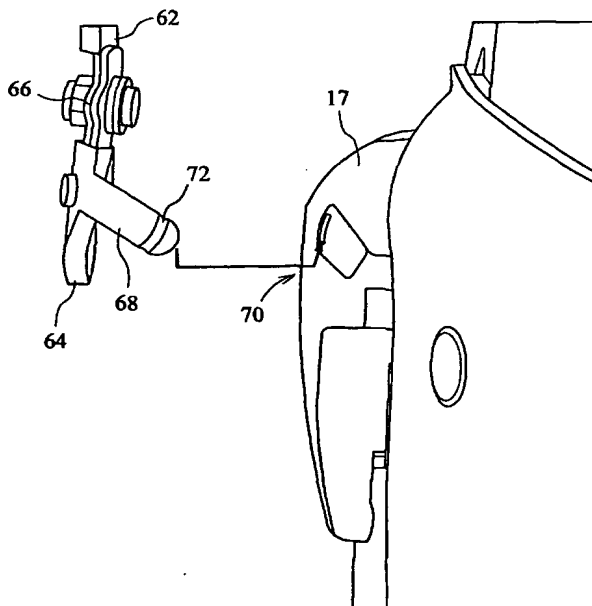
PCT

(10) International Publication Number
WO 2004/084665 A3

- (51) International Patent Classification?: **A42B 3/22**
- (21) International Application Number: PCT/GB2004/001395
- (22) International Filing Date: 29 March 2004 (29.03.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
0307111.5 27 March 2003 (27.03.2003) GB
0324880.4 24 October 2003 (24.10.2003) GB
- (71) Applicant (for all designated States except US): **HELMET INTEGRATED SYSTEMS LIMITED** [GB/GB]; Unit 3, Focus 4, Fourth Avenue, Letchworth, Hertfordshire SG6 2TU (GB).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **CHURCH, Colin** [GB/GB]; Helmet Integrated Systems Limited, Unit 3, Focus 4, Fourth Avenue, Letchworth, Hertfordshire SG6 2TU (GB). **DAMPNEY, Ian, Trevor** [GB/GB]; Helmet Integrated Systems Limite, Unit 3, Focus 4, Fourth Avenue, Letchworth, Hertfordshire SG6 2TU (GB).
- (74) Agents: **MOIR, Michael, Christopher** et al.; Mathys & Squire, 100 Gray's Inn Road, London WC1X 8AL (GB).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report

[Continued on next page]

(54) Title: RESPIRATOR



(57) Abstract: A respirator helmet (10) or other helmet adapted to receive, by means of a plug (66) and socket arrangement (70), a pivotable bar (62) carrying a protective screen (63) such that the screen may be moved between a lowered position in front of the face of the wearer of the helmet and a raised position.



(88) Date of publication of the international search report:
20 January 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

Inter. Application No	
PC	B2004/001395

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 A42B3/22

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 A42B A62B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 86/03656 A (LOENNSTEDT BO GUNNAR) 3 July 1986 (1986-07-03) page 3, lines 15,16; figure 1	1-5,7,8, 12
A	-----	6,9-13
X	DE 41 32 404 A (VER ENERGIEWERKE AG) 1 April 1993 (1993-04-01) column 1, line 68 - column 2, lines 1-13; figure 1	1-3,5,7, 8
A	-----	
A	DE 298 20 078 U (ENHA KUNSTSTOFFVERARBEITUNGS G) 23 March 2000 (2000-03-23) abstract; figures	
A	-----	
A	US 4 713 844 A (WESTGATE CHARLES A) 22 December 1987 (1987-12-22) column 2, lines 32-34; figure 1.	
	----- -/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

18 August 2004

Date of mailing of the international search report

02 NOV. 2004

Name and mailing address of the ISA
 European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer

van Bilderbeek, H.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/B2004/001395

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>DE 87 14 490 U (ALLIT-PLASTIC-WERK KIMNACH GMBH & CO) 22 September 1988 (1988-09-22) figures 1,2</p> <p>-----</p>	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2004/001395

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-13

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-13

A screen bar for a respirator helmet or other helmet adapted to carry a protective screen

2. claims: 14-22

A respirator

INTERNATIONAL SEARCH REPORT

ation on patent family members

Interr

PC

I Application No

2004/001395

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 8603656	A	03-07-1986	SE 455152 B DE 3590667 C2 DE 3590667 T EP 0205545 A1 GB 2178943 A ,B SE 8406477 A WO 8603656 A1	27-06-1988 12-09-1996 19-02-1987 30-12-1986 25-02-1987 20-06-1986 03-07-1986
DE 4132404	A	01-04-1993	DE 4132404 A1 DE 9113942 U1	01-04-1993 04-02-1993
DE 29820078	U	23-03-2000	DE 29820078 U1	23-03-2000
US 4713844	A	22-12-1987	NONE	
DE 8714490	U	22-09-1988	DE 8714490 U1	22-09-1988